



florencecopper.com



March 31, 2021

Ms. Maribeth Greenslade Water Quality Division Arizona Department of Environmental Quality 1110 West Washington Street Phoenix, Arizona 85007

Subject:

Mine Shaft Water Sample Analysis: Update

Florence Copper, Production Test Facility

Aguifer Protection Permit No. 106360 and 101704

Dear Ms. Greenslade:

In accordance with Section 2.5.1 of Temporary Aquifer Permit No. P-106360, Florence Copper sampled the underground mine (mine shaft) workings on November 19, 2020 following cessation of copper cathode production on October 28th. Laboratory results were received on December 21, 2020. Florence Copper submitted a report with the results for parameters listed in Section 4.1, Table 4.1-2C to ADEQ on January 7, 2021. Pace Laboratories in Phoenix, AZ performed the bulk of the water quality analyses, but missed the 28-day holding time for ammonia analysis. To correct this, Florence Copper sampled the underground workings for ammonia during the 1st quarter 2021 sampling event.

The 1st quarter 2021 sample was collected on 3/23/2021, and the results for ammonia were non-detect. This information has been added to the attached table with the previously reported analytical results. Non-detect values are recorded as less than the laboratory practical quantitation limit.

Please feel free to contact me at 520-374-3984 if you have any questions or require additional information.

Sincerely,

Florence Copper, Inc.

Brent Berg General Manager

Cc: Nancy Rumrill, EPA



Underground Workings

Underground Workings Monitoring Parameters	Rinsing Activities 11/19/2020 Sample Results	Units
pH - Field	6.71	
pH (pH Units), Lab	6.9	_
Specific Conductance - field	1285	μmhos/cm
Conductivity, Lab	1230	μmhos/cm
Total Dissolved Solids (Residue, Filterable)	689	mg/L
	341	
Alkalinity, Total (as CaCO3)	<5	mg/L
Alkalinity, Carbonate (as CaCO3)	341	mg/L
Alkalinity, Bicarbonate (as CaCO3)		mg/L
Nitrogen, Nitrate (as N)	<0.10	mg/L
Sulfate	<0.10	mg/L
Chloride	171	mg/L
Fluoride	0.55	mg/L
Calcium	92.7	mg/L
Ammonia*	<0.10	mg/L
Magnesium	21.1	mg/L
Potassium	6.8	mg/L
Sodium	144	mg/L
Iron	18.4	mg/L
Aluminum	0.022	mg/L
Antimony	<0.00050	mg/L
Arsenic	0.00017	mg/L
Barium	0.051	mg/L
Beryllium	0.00015	mg/L
Cadmium	<0.0008	mg/L
Chromium	0.00033	mg/L
Cobalt	0.0028	mg/L
Copper	<0.0010	mg/L
Lead	<0.00010	mg/L
Manganese	1.1	mg/L
Mercury	<0.0020	mg/L
Nickel	0.00029	mg/L
Selenium	0.00019	mg/L
Thallium	<0.00010	mg/L
Zinc	0.0029	mg/L
Gross Alpha	3.3±0.9	pCi/L
Adjusted Gross Alpha	NA	pCi/L
Radium 226 + Radium 228	0.6±0.2	pCi/L
Uranium Isotopes (if Gross Alpha > 12.0)	NA	pCi/L



Underground Workings

Underground Workings Monitoring Parameters	Rinsing Activities 11/19/2020 Sample Results	Units
TPH Diesel	0.902	mg/L
Benzene	<0.001	ug/L
Toluene	<0.001	ug/L
Ethylbenzene	<0.001	ug/L
Xylenes, Total	<0.003	ug/L
Uranium, Lab	<0.00050	mg/L

^{*} Laboratory missed testing for ammonia on original sample. Ammonia results listed are from a sample collected on 3/23/2021